MaxiiNet™ VI3010
Quick Set-Up Guide

MaxiiNet™ Gigabit Ethernet L2 Plus Managed PoE Switch

Release 2.35 / Firmware Version 1.0

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About This Manual

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Purpose

This manual provides specific information on how to program and operate the management functions of the Vi3010.

Audience

The manual is intended for use by network administrators who are responsible for operating and maintaining network equipment; consequently, it assumes a basic working knowledge of general switch functions, the Internet Protocol (IP), and Simple Network Management Protocol (SNMP).

Conventions

The following conventions are used throughout this manual to show information.

NOTE: Emphasizes important information or calls your attention to related features or instructions.

WARNING: Alerts you to a potential hazard that could cause personal injury.

CAUTION: Alerts you to a potential hazard that could cause loss of data, or damage the system or equipment.

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the CE/FCC remove rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction manual, may cause harmful interference to radio communications.

FCC Caution

To assure continued compliance: (for example, use only shielded interface cables when connected to a computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE Mark Warning

This is a Class A device, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

UL Mark

Ul 60950-1 Information Technology Equipment - Safety - Part 1: General Requirements - Edition 2 - Revision Date 2014/05/13

Revision History

Release	Date	Revision

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Introduction

Overview

This user's manual gives a guide on how to install and connect you network system. It also guides you on how to configure and monitor the Vi3010 through the web by (RJ-45) serial interface and Ethernet ports. There are detailed explanations of hardware and software functions, along with examples of web-based interface operations.

Known as the next generation web managed switches from Vigitron, the Vi3010 is a portfolio of an affordable managed switch that provides a reliable infrastructure for your business network. The Vi3010 delivers intelligent features you need to improve the availability of your critical business applications, protect your sensitive information, and optimize your network bandwidth to deliver information and applications more effectively. It provides the ideal combination of affordability and capabilities for entry level networking, including small business or enterprise application to help you create a more efficient and better-connected workforce.

The Vi3010 web managed switch provides 10 ports in a single device. The specifications are highlighted below:

- L2+ features provide better manageability, security, QoS, and performance.
- High port count design with all Gigabit Ethernet ports.
- Support guest VLAN, voice VLAN, port based, tag-based and protocol-based VLANs.
- Support 802.3az energy efficient Ethernet standard.
- Support 8K MAC table.
- Support IPv6/ IPv4 dual stack.
- Support s-Flow.
- Support easy-configuration-port for easy implement the IP phone, IP camera, or wireless environment.
- Jumbo Frame transmission for up to 9600 bytes at all network speeds.
- 250W power supply with 185W PoE budget.

Overview of this User's Manual

- Chapter 1 "Operation of Web-based Management"
- Chapter 2 "System Configuration"
- Chapter 3 "Configuration"
- Chapter 4 "Security"
- Chapter 5 "Maintenance"

Chapter 1: Operation of Web-Based Management

Initial Configuration

This chapter instructs the user on how to configure and manage the Vi3010 through the web user interface. With this facility, the user can easily access and monitor the status of each port on the switch. This includes MIB status, each port activity, spanning tree status, port aggregation status, multicast traffic, VLAN, priority status, illegal access record, and so on. The default values for the Vi3010 are listed in the table below:

IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
Username	admin
Password	

Once the Vi3010 is setup on the same network as a host computer you can view and configure the switch features. Input the username and password in order to login and access authentication.

The default username is **"admin"** and password is left **empty**. If this is the first time use, please enter the default username and password, and then click the **<Login>** button to complete the process. You have to input the complete username and password respectively within the login menu. The Vi3010 will not automatically give you a shortcut to the username. This may be inconvenient, but it is the safer option.

The Vi3010 supports a simple user management function to allow only one administrator to configure the system at **any one time**. *The use of simultaneous administrators could result in unpredictable operation.* **Additional** users, even with administrator's identity, **should** only monitor the system. Those who have no administrator's identity can only monitor the system. It is suggested, regardless of security level, that viewing is limited to one client at a time. Also, after accessing the Vi3010 and viewing is complete, log out.

Connections involving the input of routers and use of clients accessing servers, the internet, or other networks can result in *a brief disconnection of client's access to the switch GUI*. It is recommended that after programming or monitoring, clients log out and that users without administrator access be allowed only a minimal access period.

NOTE: In order to manage the switch via the web, you must login with the default username and password. For first time use, the username is "Admin" and the password is left blank. Press "login" to complete the process. You can use both IPv4/IPV6 to manage the switch.

To optimize the display effect, we recommend Microsoft IE 6.0 above, Netscape V7.1 above, or FireFox V1.00 above, and have a resolution of 1024x768. The switch supported neutral web browser interface. If the UI is not working with the FireFox browser, it might result from PC security system setting.

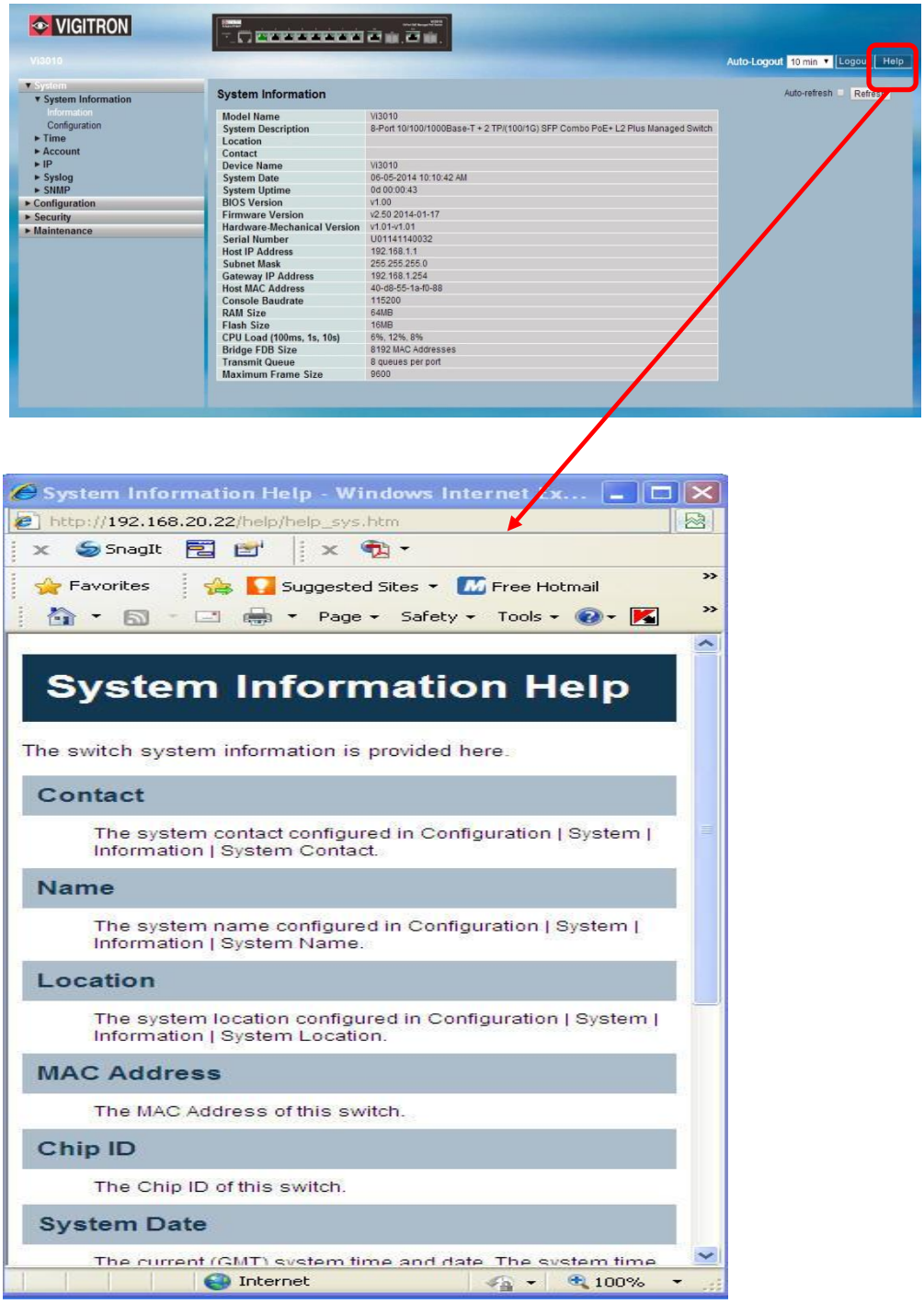
NOTE: The Vi3010 function enables DHCP. If you do not have the DHCP server to provide IP addresses to the switch, the switch's default IP is **192.168.1.1**.

Connect to 192.168.20.15
The server 192.168.20.15 at Vi3010 requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name:
admin
Password:
Remember my password
OK
Cancel

Figure 1: The Login Page

NOTE: If you need to configure the function or parameter, then refer to the detailed user guide. You could also learn how to set up the parameters by clicking on "Help" under the web GUI.

Vi3010 Web Help Function:



Connecting Network Devices

The switch is designed to be connected to 10, 100, or 1000Mbps network cards in PCs and servers, and to other switches and hubs. It may also be connected to remote devices using optional SFP transceivers.

Twisted-Pair Devices

Each device requires an unshielded twisted-pair (UTP) cable with RJ-45 connectors at both ends. Use Category 5, 5e, or 6 cable for 1000BASE-T connections, and Category 5 or better for 100BASE-TX connections.

Cabling Guidelines

The RJ-45 ports on the switch support automatic MDI/MDI-X pin-out configuration. You could use the standard straight-through or cross cables to connect to any other network device (PCs, servers, switches, routers, or hubs).

See Appendix B for further information on cabling.

CAUTION: Do not plug a phone jack connector into an RJ-45 port. This will damage the switch. Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards.

CONNECTING TO PCS, SERVERS, HUBS AND SWITCHES

Step 1. Attach one end of a twisted-pair cable segment to the device's RJ-45 connector.

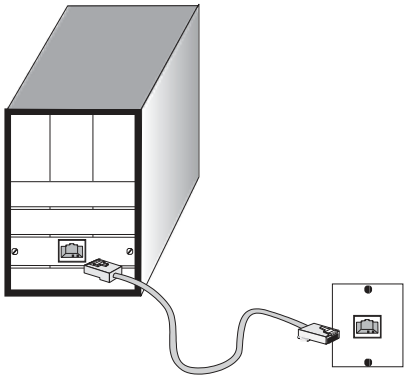


Figure 16: Making Twisted-Pair Connections

Step 2. If the device is a network card and the switch is in the wiring closet, attach the other end of the cable segment to a modular wall outlet that is connected to the wiring closet (see the section "Network Wiring Connections"). Otherwise, attach the other end to an available port on the switch.

Make sure each twisted pair cable does not exceed 100 meters (328ft) in length. If distances longer than 100 meters (328ft) are required or the requirement is to transmit PoE and IP video (data) over coax, please contact Vigitron for extended distance UTP and coax solutions.

NOTE: Avoid using flow control on a port connected to a hub, unless it is actually required to solve a problem. Otherwise, back pressure jamming signals may degrade overall performance for the segment attached to the hub.

Step 3. As each connection is made, the switch LED's corresponding to each port will light according to the following chart.

LED	Conditions	Status
TP (Link/ACT)	Green	Green when the TP link is good. Blinks when any traffic is present.
PoE	Green	Green when the port is delivering PoE power.
SFP (Link/ACT)	Green/Amber	Green when the SFP link is 1000Mp/s. Amber when the SFP link is 100Mb/s. Blinks when any traffic is present.

NETWORK WIRING CONNECTIONS

Today, the punch-down block is an integral part of many of the newer equipment racks. It is actually part of the patch panel. Instructions for making connections in the wiring closet with this type of equipment follows:

Step1. Attach one end of a patch cable to an available port on the switch, and the other end to the patch panel.

Step2. If not already in place, attach one end of a cable segment to the back of the patch panel where the punch-down block is located, and the other end to a modular wall outlet.

Step3. Label the cables to simplify future troubleshooting. See "**Cable Labeling and Connection Records**" on page 29.

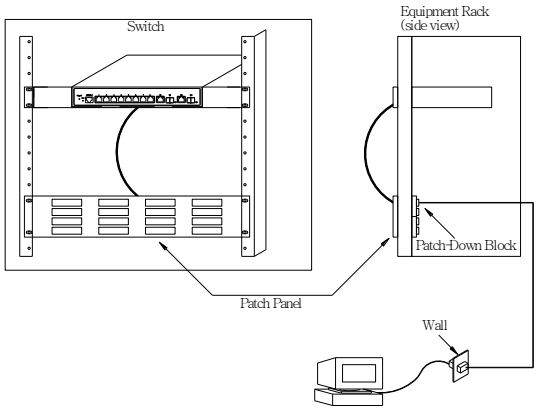


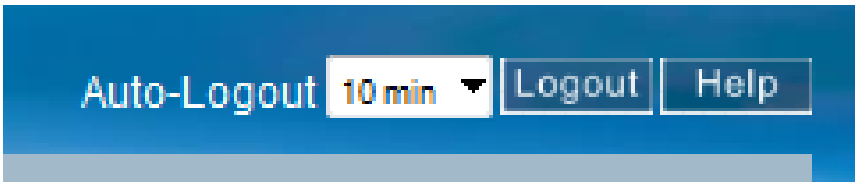
Figure 17: Network Wiring Connections

Chapter 2: System Configuration

Chapter 2 describes basic configuration tasks including system information and any management of the switch (e.g. time, account, IP, syslog, and SNMP).

System Information

The system information will appear after you logged in. This is the default page. It show the basic information of the system, including model name, system description, contact, device's name, system up time, BIOS version, firmware version, hardware-mechanical version, serial number, host IP address, host mac address, device port, RAM size, and flash size. With this information, you will know the software version used, MAC address, serial number, how many ports good and so on. This is helpful while malfunctioning.



Auto Logout is defaulted for 10 minutes after which the operation will have to re-enter the username and password. This feature can be turned off or the duration can be changed using the drop down menu.

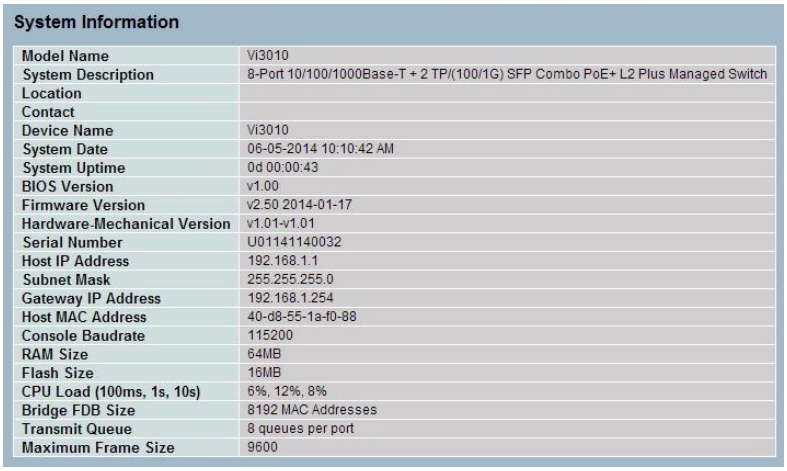
Information

The switch system information is provided here.

Web interface

To configure System Information in the web interface:

1. Click SYSTEM, System, and Information.
2. Specify the contact information for the system administrator, and the name and location of the switch. Also indicate the local time zone by configuring the appropriate offset.
3. Click "Refresh".



System Information

Model Name	Vi3010
System Description	8-Port 10/100/1000Base-T + 2 TP/(100/1G) SFP Combo PoE+ L2 Plus Managed Switch
Location	
Contact	
Device Name	Vi3010
System Date	06-05-2014 10:10:42 AM
System Uptime	0d 00:00:43
BIOS Version	v1.00
Firmware Version	v2.50 2014-01-17
Hardware-Mechanical Version	v1.01-v1.01
Serial Number	U01141140032
Host IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway IP Address	192.168.1.254
Host MAC Address	40-d8-55-1a-f0-88
Console Baudrate	115200
RAM Size	64MB
Flash Size	16MB
CPU Load (100ms, 1s, 10s)	6%, 12%, 8%
Bridge FDB Size	8192 MAC Addresses
Transmit Queue	8 queues per port
Maximum Frame Size	9600

Figure 2-1.1: System Information (e.g. Vi3010/Other models are the same)

Parameter Description

Model name: The model name of this device.

System description: This describes what the device is. In this example, it is “20-Port 10/100/1000Base-T + 4 TP/(100/1G) SFP Combo + 2 (100/1G) SFP PoE+ L2 Plus Managed Switch”.

Location: The switch location as defined by the user.

Contact: For easy managing and maintaining device, write down the contact person and their phone number here for getting help soon. You can configure this parameter through the device’s user interface or SNMP.

Device name: The name of the switch of which the user defined.

System Date: Shows the system time of the switch. Its format: day of week, month, day, hours: minutes: seconds, year.

System up time: The time accumulated since this switch is powered up. Its format is day, hour, minute, second.

BIOS version: The version of the BIOS in this switch.

Firmware version: The firmware version in this switch.

Hardware-Mechanical version: The version of Hardware and Mechanical. The figure before the hyphen is the version of electronic hardware. The one after the hyphen is the version of mechanical.

Serial number: The serial number is assigned by the Manufacture.

Host IP address: The IP address of the switch.

Subnet Mask: Displays the IP subnet mask assigned to the device.

Gateway IP Address: Displays the default gateway IP address assigned to the device.

Host MAC address: It is the Ethernet MAC address of the management agent in this switch.

Console Baudrate: Displays the information transfer rate of the RJ45 (COM) port.

RAM size: The size of the RAM (Memory) in this switch.

Flash size: The size of the flash memory in this switch.

CPU Load: Displays the load measured as averaged over the last 100ms, 1 second, and 10 seconds intervals.

Bridge FDB size: Displays the bridge FDB size information.

Transmit Queue: Displays the device's transmit hardware priority queue information.

Maximum Frame size: To display the device's maximum frame size information.

Configuration

Identify the system by configuring the contact information, name, and location of the switch.

WARNING: In order to save programming changes, go to the "Maintenance" function and select either "Save Start", which will allow for all changes to save upon start up or "Save User", which will apply changes to only the logged in user. All changes must be saved or the system will revert to its default setting for any power down and restart.

Web interface

To configure System Information in the web interface:

1. Click System, System Information, Configuration.
2. Write System Contact, System Name, System Location information in this page.
3. Click "Apply".

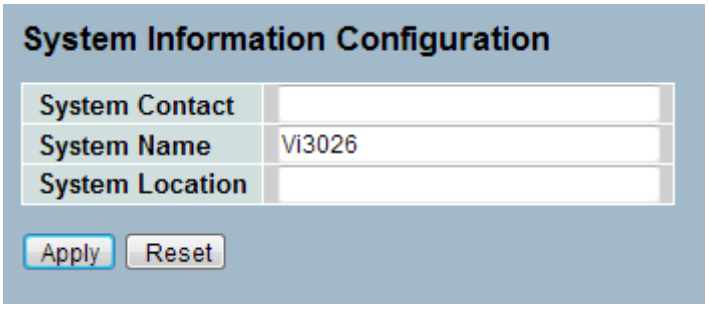


Figure 2-1.2: System Information Configuration

Parameter Description

System Contact: The textual identification of the contact person for this managed node, together with information on how to contact this person. The allowed string length is 0 to 255, and the allowed content is the ASCII characters from 32 to 126.

System Name: An administratively assigned name for this managed node. By convention, this is the node's fully-qualified domain name. A domain name is a text string drawn from the alphabet (A-Za-z), digits (0-9), minus sign (-). No space characters are permitted as part of a name. The first character must be an alpha character. And the first or last character must not be a minus sign. The allowed string length is 0 to 255.

System Location: The physical location of this node (I.e. telephone closet, 3rd floor). The allowed string length is 0 to 255, and the allowed content is the ASCII characters from 32 to 126.

Time

This page configures the switch time. Time configuration includes time configuration and NTP configuration.

Manual

The switch provides manual and automatic ways to set the system time via NTP. Manual setting is simple. Just input the year, month, day, hour, minute, and second within the valid value range indicated in each item.

Web Interface

To configure Time in the web interface:

1. Click Time, Manual.
2. Specify the time parameter in manual parameters.
3. Click “Apply”.

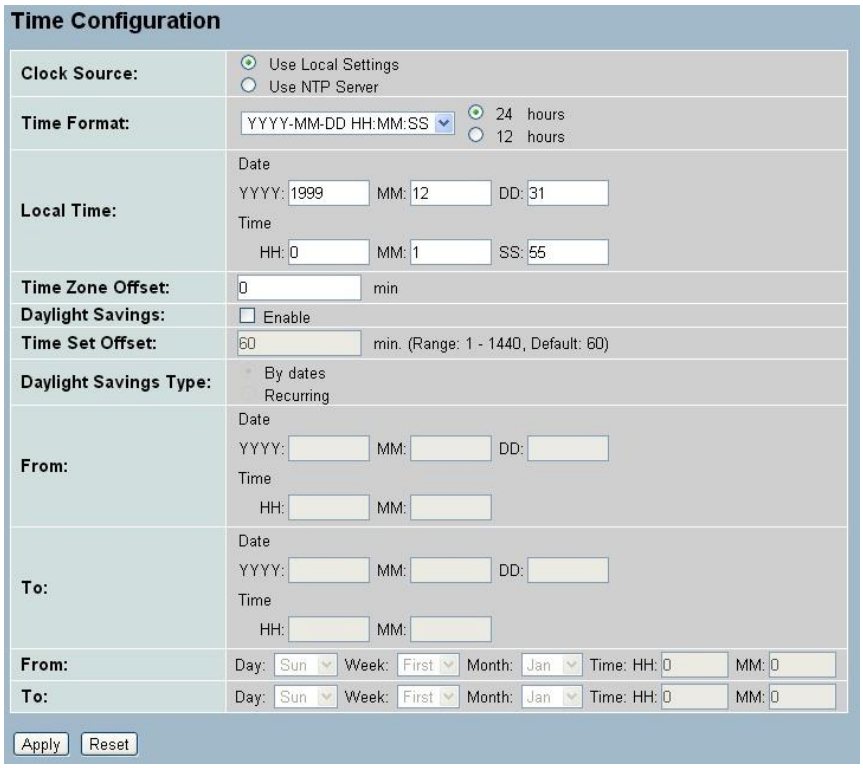


Figure 2-2.1: The Time Configuration

Parameter Description

Clock Source: Select the clock source for the Vi3010 by clicking on “Use local Settings” or “Use NTP Server”.

Time Format: Choose the appropriate time format from the drop down menu. Three selections are provided.

- YYYY-MM-DD HH:MM:SS
- MM-DD-YYYY HH:MM:SS
- DD-MM-YYYY HH:MM:SS
- 24 hours: The time is always represented in the 24-hour system
- 12 hours: The time is always represented in the 12-hour system

Local Time: Shows the current time of the system.

Time Zone Offset: Provides the time zone offset relative to UTC/GMT. The offset is given in minutes east of GMT. The valid range is from -720 to 720 minutes.

Daylight Saving: Daylight saving is adopted in some countries. If set, it will adjust the time lag or in advance in unit of hours, according to the starting date and the ending date. For example, if you set the daylight saving to be 1 hour. When the time passes over the starting time, the system time will be increased one hour after one minute at the time since it passed over. And when the time passes over the ending time, the system time will be decreased one hour after one minute at the time since it passed over.

The switch supports valid configurable day light saving time is –5 ~ +5 step one hour. The zero for this parameter means it need not have to adjust current time, equivalent to in-act daylight saving. You don’t have to set the starting/ending date as well. If you set daylight saving to be non-zero, you have to set the starting/ending date as well; otherwise, the daylight saving function will not be activated.

Time Set Offset: Provides the daylight saving time set offset. The offset is given in minutes east of GMT. The valid range is from 1 to 1440 minutes. Default is 60 minutes.

Daylight Savings Type: Provides the daylight savings type selection. You can select “By Dates” or “Recurring” two types for Daylight saving type.

From: Configures when daylight saving start date and time, the format is “YYYY-MM-DD HH:MM”.

To: To configure when daylight saving end date and time, the format is “YYYY-MM-DD HH:MM”.

NOTE: The under “from” and “to” was displayed what you set on the “From” and “To” field information.

IP

IP is an acronym for Internet Protocol. It is a protocol used for communicating data across an internet network.

IP is a "best effort" system, which means that no packet of information sent over is assured to reach its destination in the same condition it was sent. Each device connected to a Local Area Network (LAN) or Wide Area Network (WAN) is given an Internet Protocol address, and this IP address is used to identify the device uniquely among all other devices connected to the extended network.

The current version of the Internet protocol is IPv4, which has 32-bits Internet Protocol addresses allowing for in excess of four billion unique addresses. This number is reduced drastically by the practice of webmasters taking addresses in large blocks, the bulk of which remain unused. There is a rather substantial movement to adopt a new version of the Internet Protocol, IPv6, which would have 128-bits Internet Protocol addresses. This number can be represented roughly by a three with thirty-nine zeroes after it. However, IPv4 is still the protocol of choice for most of the Internet.

IPv4

The IPv4 address for the switch could be obtained via DHCP Server for VLAN 1. To manually configure an address, you need to change the switch's default settings to values that are compatible with your network. You may also need to establish a default gateway between the switch and management stations that exist on another network segment.

Configure the switch-managed IP information on this page.

The “Configured” column is used to view or change the IP configuration.

The “Current” column is used to show the active IP configuration.

Web Interface

To configure an IP address in the web interface:

1. Click System, IP Configuration.
2. Specify the IPv4 settings, and enable DNS proxy service if required.
3. Click “Apply”.

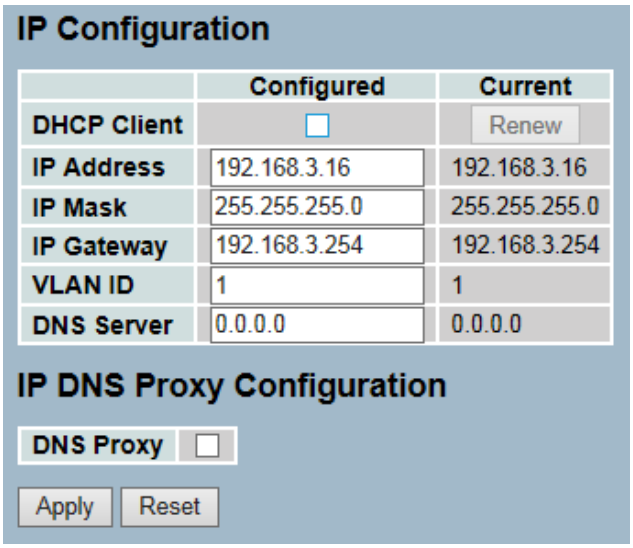


Figure 2- 3.1: The IP Cconfiguration

Parameter Description

DHCP Client: Enables the DHCP client by checking this box. If DHCP fails and the configured IP address is zero, the DHCP will retry. If the DHCP fails and the configured IP address is non-zero, the DHCP will stop and the configured IP settings will be used. The DHCP client will announce the configured system name as hostname to provide DNS lookup.

IP Address: Provides the IP address of this switch in dotted decimal notation.

IP Mask: Provides the IP mask of this switch dotted decimal notation.

IP Gateway: Provides the IP address of the router in dotted decimal notation.

VLAN ID: Provides the managed VLAN ID. The allowed range is 1 to 4095.

DNS Server: Provides the IP address of the DNS Server in dotted decimal notation.

DNS Proxy: When DNS proxy is enabled, DUT will relay DNS requests to the current configured DNS server on DUT, and reply as a DNS resolver to the client device on the network.

IPv6

This section describes how to configure the switch-managed IPv6 information. The “Configured” column is used to view or change the IPv6 configuration. And the “Curren t” column is used to show the active IPv6 configuration.

Configure the switch-managed IPv6 information on this page.

The “Configured” column is used to view or change the IPv6 configuration.

The “Current” column is used to show the active IPv6 configuration.

Web Interface

To configure Management IPv6 of the switch in the web interface:

1. Click System, IPv6 configuration.
2. Specify the IPv6 settings, and enable “Auto Configuration” service if required.
3. Click “Apply”.

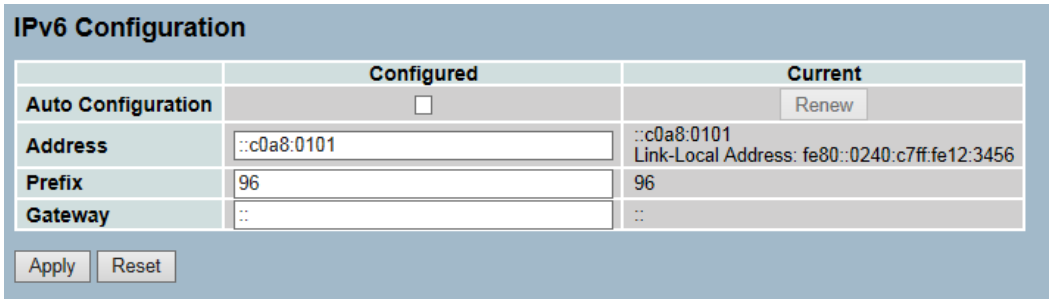


Figure 2- 3.2: The IPv6 Configuration

Parameter Description

Auto Configuration: Enables IPv6 auto-configuration by checking this box. If fails, the configured IPv6 address is zero. The router may delay responding to a router solicitation for a few seconds, the total time needed to complete auto-configuration can be significantly longer.

Address: Provides the IPv6 address of this switch. The IPv6 address is in 128-bit records represented as eight fields of up to four hexadecimal digits with a colon separating each field (:). For example, 'fe80::215:c5ff:fe03:4dc7'. The symbol '::' is a special syntax that can be used as a shorthand way of representing multiple 16-bit groups of contiguous zero’s. However, it can only appear once. It can also represent a legally valid IPv4 address. For example, '::192.1.2.34'.

Prefix: Provides the IPv6 Prefix of this switch. The allowed range is 1 to 128.

Gateway: Provides the IPv6 gateway address of this switch. IPv6 address is in 128-bit records represented as eight fields of up to four hexadecimal digits with a colon separating each field (:). For example, 'fe80::215:c5ff:fe03:4dc7'. The symbol '::' is a special syntax that can be used as a shorthand way of representing multiple 16-bit groups of contiguous zero’s; but it can only appear once. It can also represent a legally valid IPv4 address. . For example, '::192.1.2.34'.

Chapter 3: Configuration

Chapter 3 describes all of the basic network configuration tasks including the ports, layer 2 network protocol (e.g. VLANs, QoS, IGMP, ACLs and PoE etc.) and any setting of the switch.

Port

The section describes to configure the port detail parameters of the switch. You could use the port configuration to enable or disable the port of the switch, and monitor the ports content or status in the function.

Configuration

This chapter describes how to view the current port configuration and how to configure ports to non-default settings, including:

1. Linkup/Linkdown
2. Speed (Current and configured)
3. Flow Control (Current Rx, Current Tx and Configured)
4. Maximum Frame Size
5. Excessive Collision Mode
6. Power Control

Web Interface

To configure a Current Port Configuration in the web interface:

1. Click Configuration, Port, then Configuration.
2. Specify the speed configured, flow control, maximum frame size, excessive collision mode, and power control.
3. Click “Apply”.

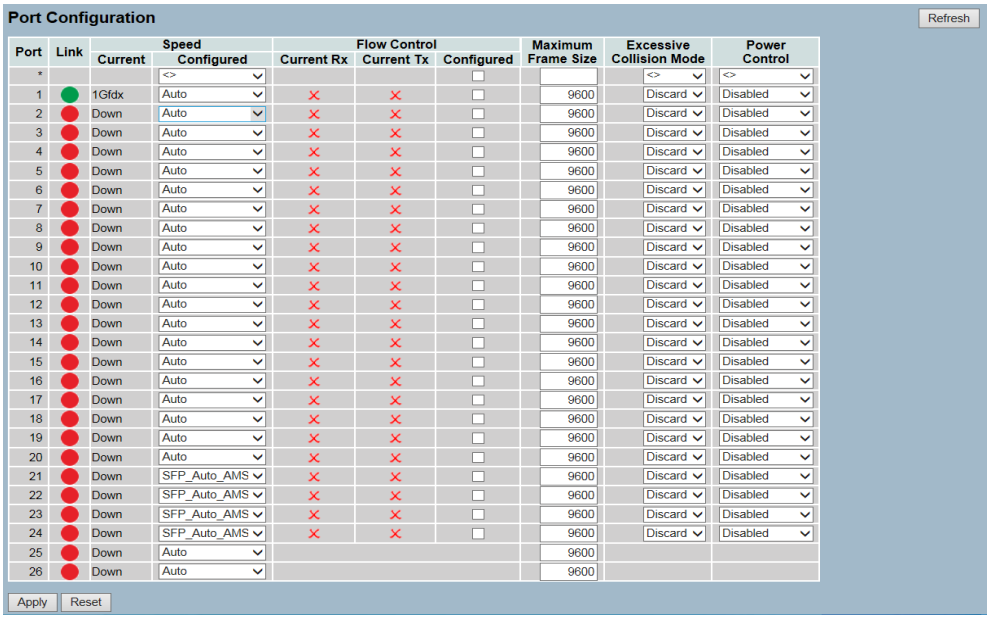


Figure 3-1.1: The Port Configuration

Parameter Description

Port: This is the logical port number for this row.

Link: The current link state is displayed graphically. Green indicates the link is up and red that it is down.

Current Link Speed: Provides the current link speed of the port.

Configured Link Speed: Selects any available link speed for the given switch port. Only speeds supported by the specific port are shown.

Possible speeds are:

- Disabled - Disables the switch port operation.
- Auto - Cu port auto negotiating speed with the link partner and selects the highest speed that is compatible with the link partner.
- 10Mbps HDX - Forces the cu port in 10Mbps half-duplex mode.
- 10Mbps FDX - Forces the cu port in 10Mbps full duplex mode.
- 100Mbps HDX - Forces the cu port in 100Mbps half-duplex mode.
- 100Mbps FDX - Forces the cu port in 100Mbps full duplex mode.
- 1Gbps FDX - Forces the cu port in 1Gbps full duplex mode.
- **Important!** Please note SFP_Auto_AMS - Automatically determines the speed of the SFP. There is no standardized way to do SFP auto detect, so here it is done by reading the SFP rom. Due to the missing standardized way of doing SFP auto detect some SFPs might not be detectable. The port is set in AMS mode with SFP preferred. Cu port is set in **Auto** mode.
- 100-FX - SFP port in 100-FX speed. Cu port disabled.
- 100-FX_AMS - Port in AMS mode with SFP preferred. SFP port in 100-FX speed. Cu port in **Auto** mode.

- 1000-X - SFP port in 1000-X speed. Cu port disabled.
- 100-X_AMS - Port in AMS mode with SFP preferred. SFP port in 1000-X speed.
- Cu port in **Auto** mode.

Flow Control: When “Auto Speed” is selected on a port, this section indicates the flow control capability that is advertised to the link partner. When a fixed-speed setting is selected, that is what is used. The “Current Rx” column indicates whether pause frames on the port are obeyed, and the “Current Tx” column indicates whether pause frames on the port are transmitted. The Rx and Tx settings are determined by the result of the last “Auto-Negotiation”.

Check the configured column to use flow control. This setting is related to the setting for configured link speed.

Maximum Frame Size: Enter the maximum frame size allowed for the switch port, including FCS.

Excessive Collision Mode :

- Configures port transmit collision behavior.
- **Discard:** Discards frame after 16 collisions (default).
- **Restart:** Restarts backoff algorithm after 16 collisions.

Power Control: The “Usage” column shows the current percentage of the power consumption per port. The “Configured” column allows for changing the power savings mode parameters per port.

- **Disabled:** All power savings mechanisms disabled.
- **ActiPHY:** Link down power savings enabled.
- **PerfectReach:** Link up power savings enabled.
- **Enabled:** Both link up and link down power savings enabled.

Buttons

- **Apply –** Click to save changes.
- **Reset**- Click to undo any changes made locally and revert to previously saved values.
- **Upper right icon (Refresh):** Click to refresh the port link Status manually

Port Description

The section describes to configure the port's alias or any descriptions for the port identity. It provides the user with an alphanumeric string describing the full name and version identification for the system's hardware type, software version, and networking application**.**

Web Interface

To configure a Port Description in the web interface:

1. Click Configuration, Port, and then Port Description.
2. Specify the detail port alias or description an alphanumeric string, describing the full name and version identification for the system's hardware type, software version, and networking application.
3. Click "Apply".

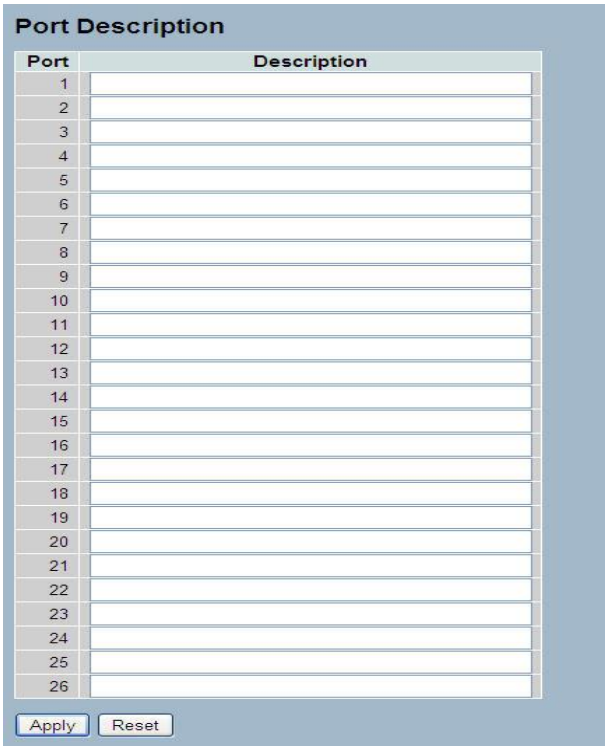


Figure 3-1.2: The Port Configuration

Parameter Description

Port: This is the logical port number for this row.

Description: Enter up to 47 characters to be descriptive name for identifies this port.

Buttons

- **Apply** – Click to save changes.
- **Reset**- Click to undo any changes made locally and revert to previously saved values. After port naming is applied the name can be seen by moving the mouse over the corresponding port in the switch icon at the top of the screen.

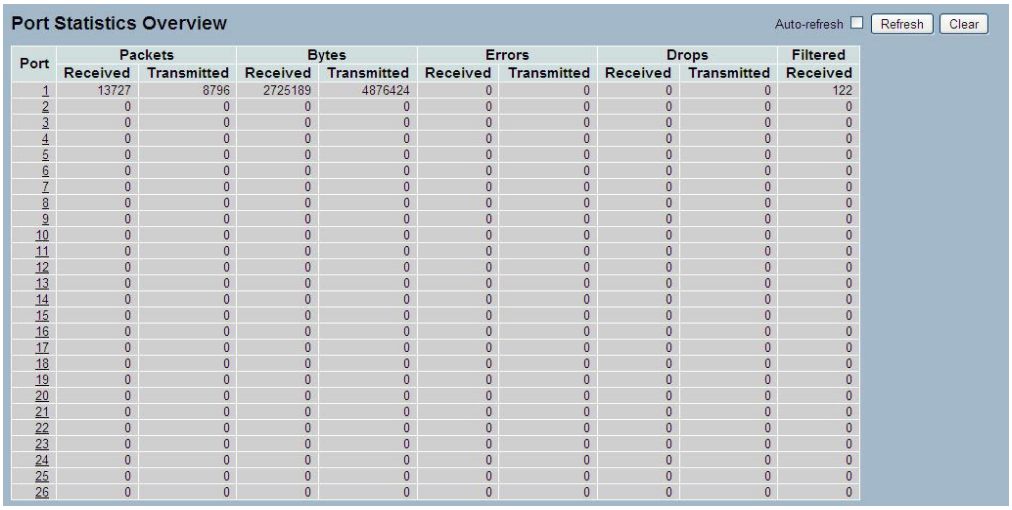
Traffic Overview

The section describes to the port statistics information and provides overview of general traffic statistics for all switch ports.

Web Interface

To display the Port Statistics Overview in the web interface:

1. Click Configuration, Port, and then Traffic Overview.
2. If you want to auto-refresh then you need Evokes the “Auto-refresh”.
3. Click “Refresh“ to refresh the port statistics or clear all information when you click “Clear”.



Port Statistics Overview

Auto-refresh Refresh Clear

Port	Packets		Bytes		Errors		Drops		Filtered
	Received	Transmitted	Received	Transmitted	Received	Transmitted	Received	Transmitted	Received
1	13727	8796	2725189	4876424	0	0	0	0	122
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0

Figure 3-1.3: The Port Statistics Overview

Parameter Description

Port: The logical port for the settings contained in the same row.

Packets: The number of received and transmitted packets per port.

Bytes: The number of received and transmitted bytes per port.

Errors: The number of frames received in error and the number of incomplete transmissions per port.

Drops: The number of frames discarded due to ingress or egress congestion.

Filtered: The number of received frames filtered by the forwarding.

Auto-refresh: Evokes the auto-refresh icon then the device will refresh the information automatically.

Upper right icon (Refresh, Clear): Click to refresh the port statistics information manually. Click “Clear” to clean up all port statistics.

Detailed Statistics

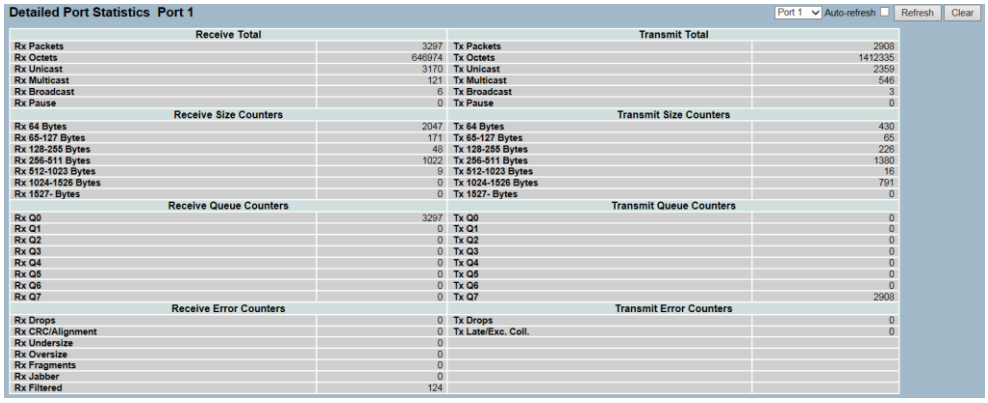
The section provides detailed traffic statistics for a specific switch port. Use the port select box to select which switch port details to display.

The displayed counters are the totals for receive and transmit, the size counters for receive and transmit, and the error counters for receive and transmit.

Web Interface

To display the Port detailed Statistics Overview in the web interface:

1. Click Configuration, Port, and then Detailed Port Statistics.
2. Scroll the port index to select which port you want to show the detailed port statistics overview.
3. If you want to auto-refresh the information, then you need Evokes the “Auto-refresh”.
4. Click “Refresh“ to refresh the port detailed statistics or clear all information by clicking “Clear”.



Receive Total		Transmit Total	
Rx Packets	3297	Tx Packets	2908
Rx Octets	646974	Tx Octets	1412335
Rx Unicast	3170	Tx Unicast	2359
Rx Multicast	121	Tx Multicast	546
Rx Broadcast	6	Tx Broadcast	3
Rx Pause	0	Tx Pause	0
Receive Size Counters		**Transmit Size Counters**	
Rx 64 Bytes	2047	Tx 64 Bytes	430
Rx 65-127 Bytes	171	Tx 65-127 Bytes	65
Rx 128-255 Bytes	48	Tx 128-255 Bytes	226
Rx 256-511 Bytes	1022	Tx 256-511 Bytes	1380
Rx 512-1023 Bytes	9	Tx 512-1023 Bytes	16
Rx 1024-1526 Bytes	0	Tx 1024-1526 Bytes	791
Rx 1527- Bytes	0	Tx 1527- Bytes	0
Receive Queue Counters		**Transmit Queue Counters**	
Rx Q0	3297	Tx Q0	0
Rx Q1	0	Tx Q1	0
Rx Q2	0	Tx Q2	0
Rx Q3	0	Tx Q3	0
Rx Q4	0	Tx Q4	0
Rx Q5	0	Tx Q5	0
Rx Q6	0	Tx Q6	0
Rx Q7	0	Tx Q7	2908
Receive Error Counters		**Transmit Error Counters**	
Rx Drops	0	Tx Drops	0
Rx CRC/Alignment	0	Tx Late/Exc. Coll.	0
Rx Undersize	0		
Rx Oversize	0		
Rx Fragments	0		
Rx Jabber	0		
Rx Filtered	124		

Figure 3-1.4: The Port Detail Statistics Overview

Parameter Description

Auto-refresh: Evokes the auto-refresh to refresh the port statistics information automatically.

Upper left scroll bar: Scrolls which port to display the port statistics with “Port-0”, “Port-1”...

Receive Total and Transmit Total

Rx and Tx Packets: The number of received and transmitted (good and bad) packets.

Rx and Tx Octets: The number of received and transmitted (good and bad) bytes. Includes FCS, but excludes framing bits.

Rx and Tx Unicast: The number of received and transmitted (good and bad) unicast packets.

Rx and Tx Multicast: The number of received and transmitted (good and bad) multicast packets.

Rx and Tx Broadcast: The number of received and transmitted (good and bad) broadcast packets.

Rx and Tx Pause: A count of the MAC Control frames received or transmitted on this port that have an opcode indicating a PAUSE operation.

Receive and Transmit Size Counters

The number of received and transmitted (good and bad) packets split into categories based on their respective frame sizes.

Receive and Transmit Queue Counters

The number of received and transmitted packets per input and output queue.

Receive Error Counters

Rx Drops: The number of frames dropped due to lack of received buffers or egress congestion.

Rx CRC/Alignment: The number of frames received with CRC or alignment errors.

Rx Undersize: The number of short 1 frames received with valid CRC.

Rx Oversize: The number of long 2 frames received with valid CRC.

Rx Fragments: The number of short 1 frames received with invalid CRC.

Rx Jabber: The number of long 2 frames received with invalid CRC.

Rx Filtered: The number of received frames filtered by the forwarding process.

- Short frames are frames that are smaller than 64 bytes.
- Long frames are frames that are longer than the configured maximum frame length for this port.

Transmit Error Counters

Tx Drops: The number of frames dropped due to output buffer congestion.

Tx Late/Exc. Coll.: The number of frames dropped due to excessive or late collisions.

Auto-refresh: Evokes the auto-refresh to refresh the queuing counters automatically.

Upper right icon (Refresh, clear): Click to refresh the port detail statistics or clear them manually.

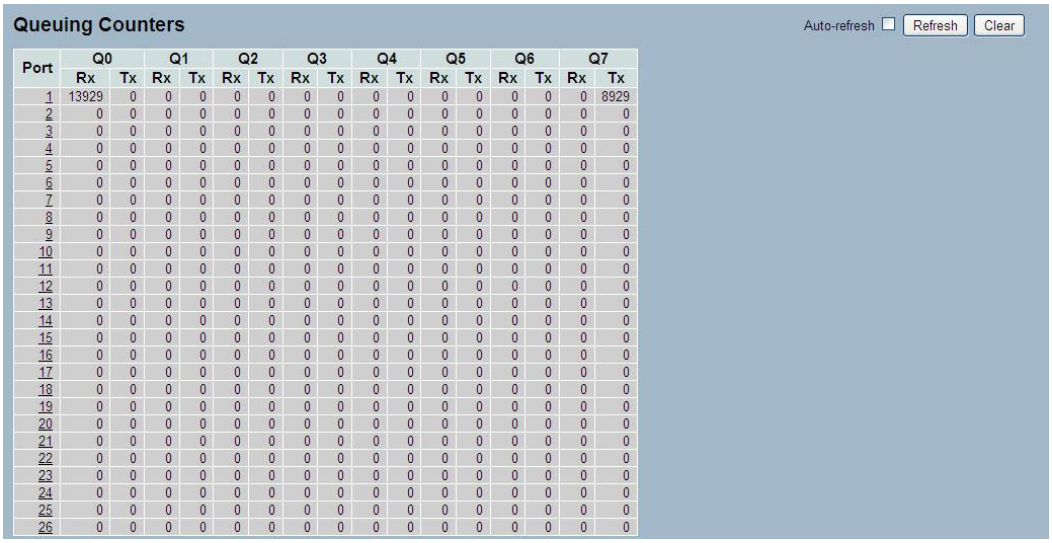
QoS Statistics

The switch could display the QoS detailed queuing counters for a specific switch port.

Web Interface

To display the Queuing Counters in the web interface:

1. Click Configuration, Port, and then QoS Statistics.
2. If you want to auto-refresh the information then you need Evokes the “Auto-refresh”.
3. Click “Refresh” to refresh the Queuing Counters or clear all information by clicking “Clear”.



Port	Q0		Q1		Q2		Q3		Q4		Q5		Q6		Q7	
	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx
1	13929	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8929
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 3-1.5: The Queuing Counters Overview

Parameter Description

Port: The logical port for the settings contained in the same row.

Qn: Qn is the Queue number, QoS queues per port. Q0 is the lowest priority queue.

Rx/Tx: The number of received and transmitted packets per queue.

Auto-refresh: Evokes the auto-refresh to refresh the Queuing Counters automatically.

Upper right icon (Refresh, clear): Click to refresh the Queuing Counters or clear them manually.

SFP Information

The switch could display the SFP module detail information which you connect it to the switch. The information includes connector type, fiber type, wavelength, baud rate, vendor OUI, and etc. The information can differ depending on the SFP used. Some SFP many not provide all information categories.

Web Interface

To Display the SFP information in the web interface:

1. Click Configuration, Port, and then SFP Information.
2. To display the SFP Information, click “Apply”.

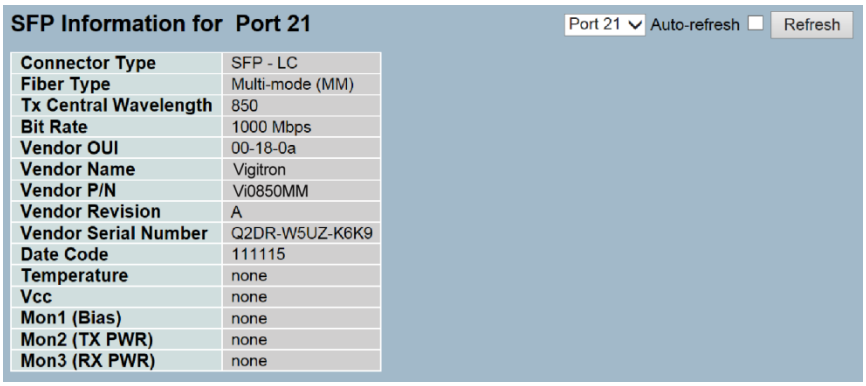


Figure 3-1.6: The SFP Information Overview

Parameter Description

Connector Type: Displays the connector type (e.g. UTP, SC, ST, LC and so on).

Fiber Type: Displays the fiber mode (e.g. Multi-Mode, Single-Mode).

Tx Central Wavelength: Displays the fiber optical transmitting central wavelength (e.g. 850nm, 1310nm, 1550nm and so on).

Baud Rate: Displays the maximum baud rate of the fiber module supported (e.g. 10M, 100M, 1G and so on).

Vendor OUI: Displays the manufacturer's OUI code which is assigned by IEEE.

Vendor Name: Displays the company name of the module manufacturer.

Vendor P/N: Displays the product name of the naming by module manufacturer.

Vendor Revision: Displays the module revision.

Vendor Serial Number: Shows the serial number assigned by the manufacturer.

Date Code: Shows the date this SFP module was made.

Temperature: Shows the current temperature of SFP module.

Vcc: Shows the working DC voltage of SFP module.

Mon1(Bias) mA: Shows the Bias current of SFP module.

Mon2(TX PWR): Shows the transmit power of SFP module.

Mon3(RX PWR): Shows the receiver power of SFP module.

PoE

PoE is an acronym for Power over Ethernet. Power over Ethernet is used to transmit electrical power to remote devices over standard Ethernet cable. For example, it could be used to power IP video cameras, PoE LEDs, IP telephones, wireless LAN access points, and other equipment, where it would be difficult or expensive to connect the equipment to main power supply.

Configuration

This page allows the user to inspect and configure the current PoE port settings and show all PoE supply watts.

Web Interface

To configure Power over Ethernet in the web interface:

1. Click configuration.
2. Specify the Reserved Power determined and Power Management mode. Specify the PoE or as 802.3af (15.4W) or 802.3at (30W) and priority.
3. Click “Apply”.

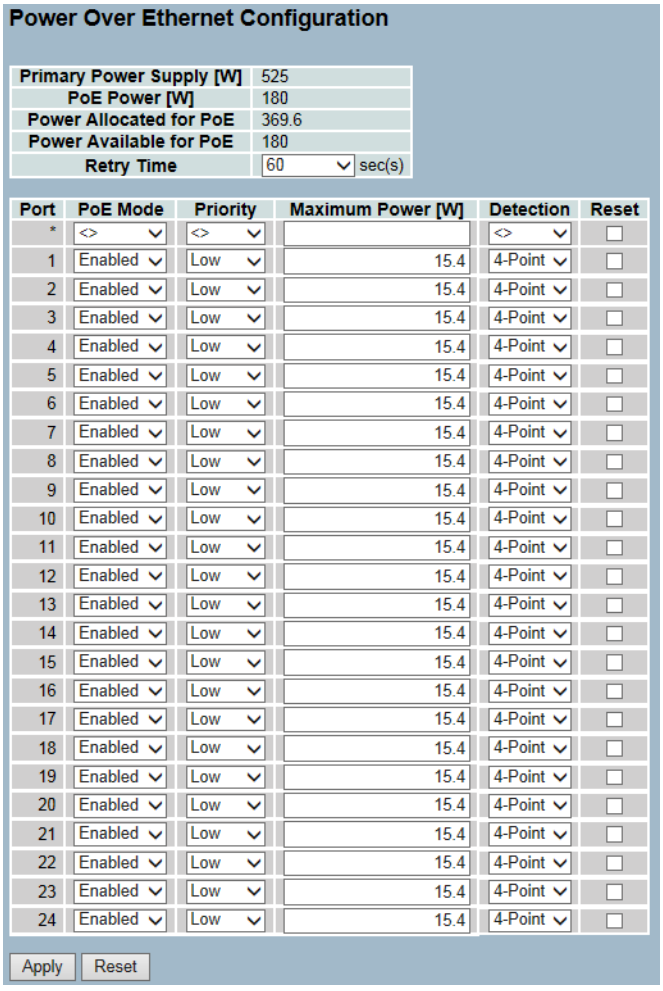

Power Over Ethernet Configuration
Primary Power Supply [W] 525
PoE Power [W] 180
Power Allocated for PoE 369.6
Power Available for PoE 180
Retry Time 60 sec(s)
Port PoE Mode Priority Maximum Power [W] Detection Reset
* <> <> <>
1 Enabled Low 15.4 4-Point
2 Enabled Low 15.4 4-Point
3 Enabled Low 15.4 4-Point
4 Enabled Low 15.4 4-Point
5 Enabled Low 15.4 4-Point
6 Enabled Low 15.4 4-Point
7 Enabled Low 15.4 4-Point
8 Enabled Low 15.4 4-Point
9 Enabled Low 15.4 4-Point
10 Enabled Low 15.4 4-Point
11 Enabled Low 15.4 4-Point
12 Enabled Low 15.4 4-Point
13 Enabled Low 15.4 4-Point
14 Enabled Low 15.4 4-Point
15 Enabled Low 15.4 4-Point
16 Enabled Low 15.4 4-Point
17 Enabled Low 15.4 4-Point
18 Enabled Low 15.4 4-Point
19 Enabled Low 15.4 4-Point
20 Enabled Low 15.4 4-Point
21 Enabled Low 15.4 4-Point
22 Enabled Low 15.4 4-Point
23 Enabled Low 15.4 4-Point
24 Enabled Low 15.4 4-Point
Apply Reset

Figure 3-9.1: The PoE Configuration

Parameter Description

Power Supply Configuration

Primary Power Supply [W]: The switch can have PoE power supplies. It is used as power source to determine the amount of power the PD may use. It must be defined what amount of power the power sources can deliver.

PoE Power: The PoE power supply settings will be shown.

Power Allocated for PoE: The total of maximum power. As power per port is allocated, this figure will increase. A pop up will be displayed when the total value of the available PoE power is exceeded.

Power Available for PoE: Power Available for PoE.

Retry Rime: The period (in seconds) for trying to turn on an overloaded PoE port. If a port becomes overloaded for any reason, power will shut down and an attempt to repower will be made depending on the time set.

Ethernet Port Configuration

Port: This is the logical port number for this row.

PoE Mode: The PoE mode represents the PoE operating mode for the port.

- **Disabled:** PoE disabled for the port.
- **Enabled**: Enables PoE IEEE 802.3af/at

Priority: The priority represents the ports priority. There are three levels of power priority named low, high and critical.

The priority is used in the case where the remote device requires more power than the power supply can deliver. In this case the port with the lowest priority will be turn off starting from the port with the highest port number.

Maximum Power: The maximum power value contains a numerical value that indicates the maximum power in watts that can be delivered to a remote device.

Detection: The detection represents the PoE capacitor detection for the port.

- **Legacy:** Legacy capacitive detection only.
- **4-point:** IEEE 802.3af 4-point detection only.
- **Both:** IEEE 802.3af 4-point detection followed by legacy detection.

Reset: Resets the specific PoE port.

NOTE: If you want to set the port support IEEE802.3at, please note that the maximum allowed value is 30W.

Buttons:

- **Apply –** Click to save changes.
- **Reset –** Click to undo any changes made locally and revert to previously saved values.

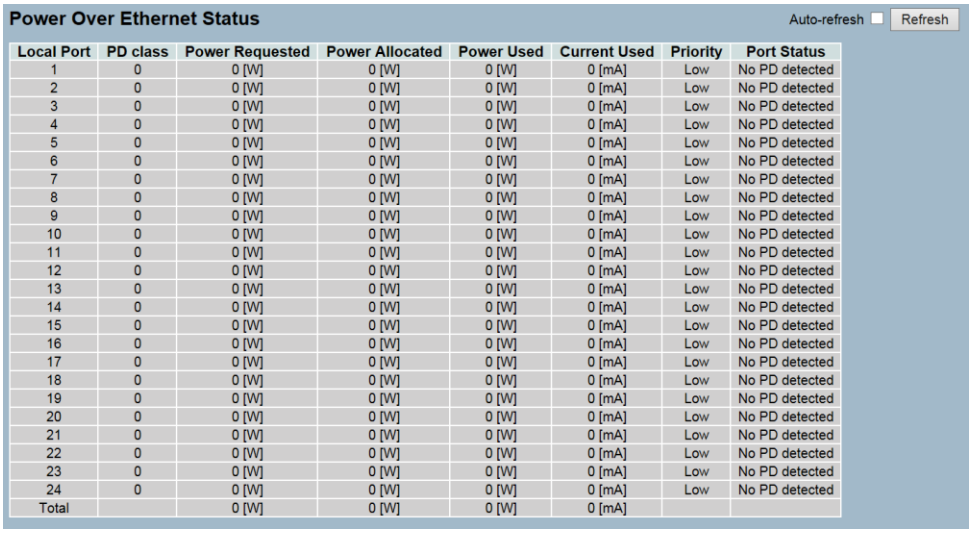
Status

This page allows the user to inspect the current status for all PoE ports. The section show all port power over Ethernet status.

Web Interface

To display Power over Ethernet status in the web interface:

1. Click “Status”.
2. Display Power over Ethernet Status Information.
3. Click “Refresh”.



Power Over Ethernet Status

Auto-refresh Refresh

Local Port	PD class	Power Requested	Power Allocated	Power Used	Current Used	Priority	Port Status
1	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
2	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
3	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
4	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
5	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
6	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
7	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
8	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
9	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
10	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
11	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
12	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
13	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
14	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
15	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
16	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
17	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
18	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
19	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
20	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
21	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
22	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
23	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
24	0	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected
Total		0 [W]	0 [W]	0 [W]	0 [mA]		

Figure 3-9.2: The Power over Ethernet Status

Parameter Description

Local Port: This is the logical port number for this row.

PD Class: Displays the PD power class that identify with a specified current. The classification current describes the amount of power the PD will require during normal operation.

Power Requested: The power requested shows the requested amount of power the PD wants to be reserved.

Power Allocated: The power allocated shows the amount of power the switch has allocated for the PD.

Power Used: The power used shows how much power the PD currently is using.

Current Used: The power used shows how much current the PD currently is using.

Priority: The priority shows the port's priority configured by the user.

Port Status: The port status shows the port's status. If no PD is detected the camera will not power up. There will be no PD class or power requested.

Auto-refresh: Evoke the auto-refresh icon, then the device will refresh the information automatically.

Upper right icon (Refresh): Click to refresh the PoE Port information manually.

Power Delay

This page allows the user to set the delay time of power providing after the device rebooted.

Web Interface

To display Power over Ethernet Status in the web interface:

1. Click Configuration, PoE, and Power delay.
2. Enable the port to the power device.
3. Specify the power providing delay time when reboot.
4. Click “Apply” to apply the change.

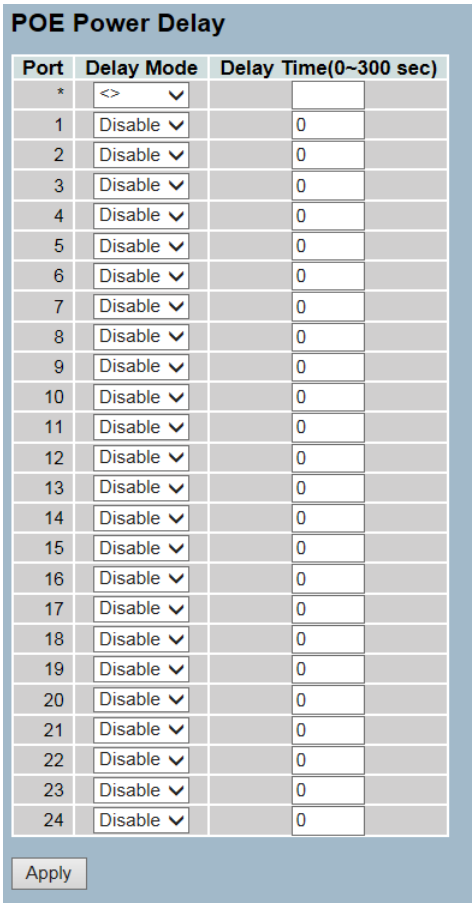


Figure 3-9.3: The POE Power Delay

Parameter Description

Port: This is the logical port number for this row.

Delay Mode: Turn on / off the power delay function.

Delay Time (0~300sec): When rebooting, the PoE port will start to provide power to the PD when it out of delay time.

Button: Apply- Click “Apply” to apply the change.

Auto Checking

This page allows the user to specify the auto detection parameters to check the linking status between PoE ports and PDs. When it detected the fail connect, it will reboot the remote PD automatically.

Web Interface

To display Power over Ethernet Auto Checking in the web interface:

1. Click Configuration, PoE, and Auto checking.
2. Enable the ping check function.
3. Specify the PD's IP address, checking interval, retry time, failure action and reboot time.
4. Click "Apply" to apply the change.

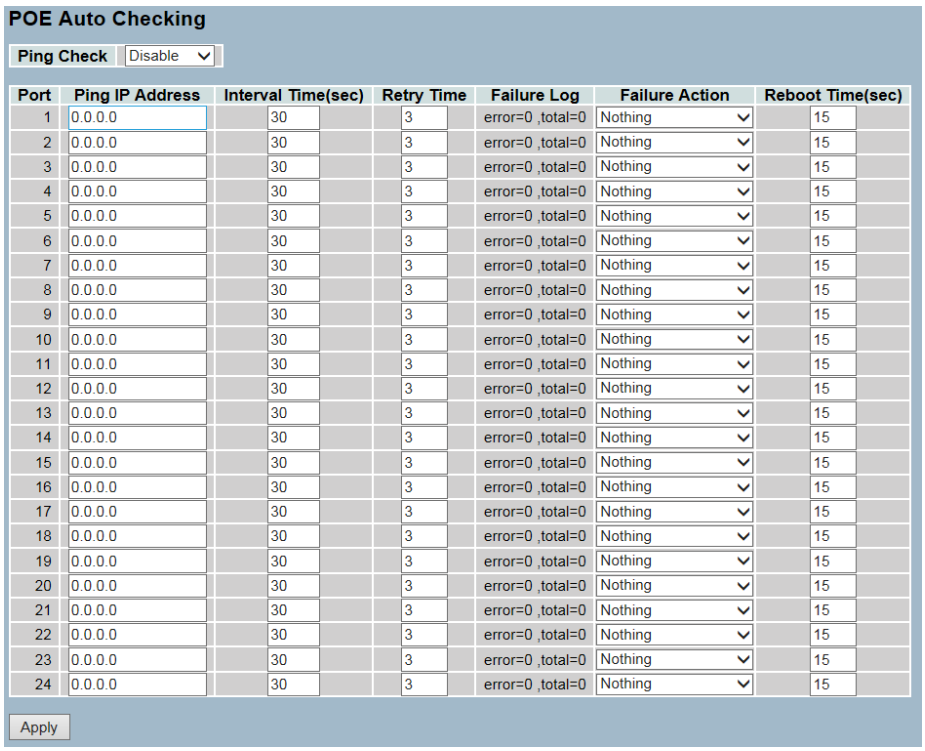

POE Auto Checking
Ping Check
Disable
Port
Ping IP Address
Interval Time(sec)
Retry Time
Failure Log
Failure Action
Reboot Time(sec)
1 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
2 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
3 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
4 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
5 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
6 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
7 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
8 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
9 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
10 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
11 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
12 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
13 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
14 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
15 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
16 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
17 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
18 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
19 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
20 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
21 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
22 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
23 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
24 0.0.0.0 30 3 error=0 ,total=0 Nothing 15
Apply

Figure 3-9.4: The POE Auto Checking

Parameter Description

Ping Check: Enables ping check function can detects the connection between PoE port and power device. “Disable” will turn off the detection.

Port: This is the logical port number for this row.

Ping IP Address: The PD’s IP address the system should ping.

Interval Time (sec): Device will send checking message to PD each interval time.

Retry Time: When PoE port can’t ping the PD, it will retry to send detection again. When the third time, it will trigger failure action.

Failure Log: Failure loggings counter.

Failure Action: The action when the third fail detection.

- **Nothing-** Keeps ping the remote PD but does nothing further.
- **Reboot Remote PD-** Cuts off the power of the PoE port, make PD rebooted.

Reboot Time: When PD has been rebooted, the PoE port restores power after the specified time.

Button: Apply- Click “Apply” to apply the change.

Scheduling

This page allows the user to make a perfect schedule of PoE power supply. PoE scheduling not only makes PoE management easier but also saves more energy.

Web Interface

To display Power over Ethernet Scheduling in the web interface:

1. Click Configuration, PoE, and Scheduling.
2. Select the local port and enable.
3. Select time and day to supply power.
4. Click “Apply” to apply the change.

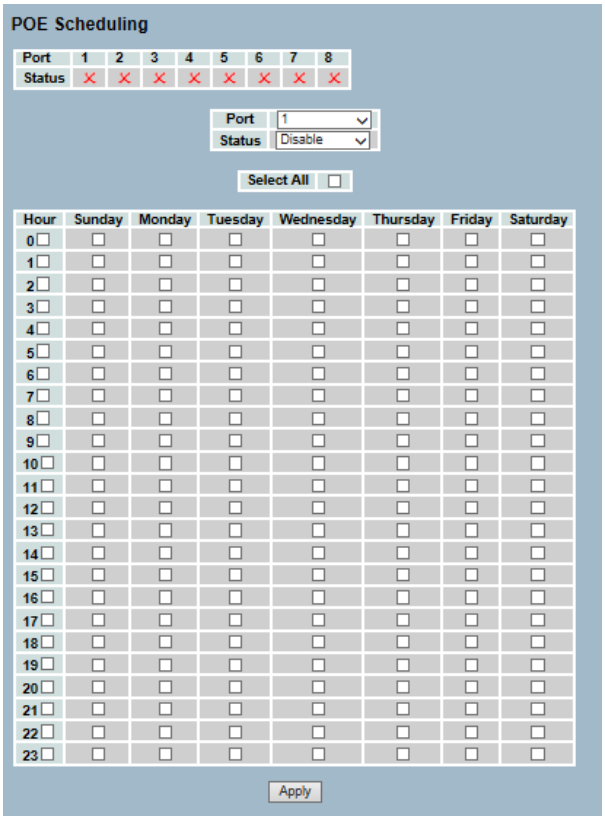

POE Scheduling
Port 1 2 3 4 5 6 7 8
Status
Port 1
Status Disable
Select All
Hour Sunday Monday Tuesday Wednesday Thursday Friday Saturday
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Apply

Figure 3-9.5: The POE Scheduling

Parameter Description

Port / Status: This is the logical port number and it’s PoE scheduling mode, is enable; is disable.

Week Day (Sun., Mon., etc…): The days of PoE port provides power of a week.

Hour: The time of PoE port provide power of a day.

Button: Apply- Click “Apply” to apply the change.

Single IP

Vi3010 provide single IP address management of up to 32 switches and not limited to specific models, distance barriers, specialized cables, stacking method.

Each single IP group consists of one master switch, and up to 32 slave switches. The Master Switch is used to be an agent to manage all switches in the same group. The slave switch is a switch which wants to join a single IP group, and it could be accessed from the master switch.

Configuration

The section describes how to setting the single IP group in this web interface.

Web Interface

To configure the Single IP in the web interface:

1. Click Configuration, then Single IP.
2. Choice what mode of the switch is.
3. Giving the group name.
4. Click “Apply” to save the setting.
5. If you want to cancel the setting, then you need to click the “Reset” button. It will revert to previously saved values.

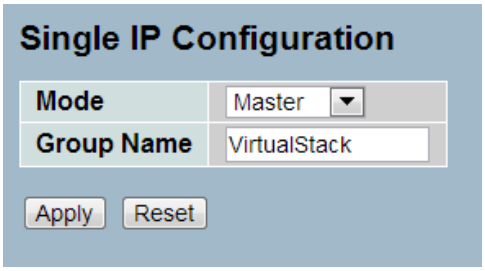


Figure 3-18.1: The Single IP Configuration

Parameter Description

Mode: Possible modes are –

- **Disable:** Disables operation of Single IP Management.
- **Master:** Enables Single IP Management and to be a master switch.
- **Slave:** Enablse Single IP Management and to be a slave switch.

Group Name: Indicates the name of the single IP group. Maximum length of the group name String is 64.

Buttons

- **Apply**: Click to apply changes.
- **Reset**: Click to undo any changes made locally and revert to previously saved values.

Information

This page displays the active slave switch information.

Web Interface

To display the active slave information in the web interface:

1. Click Configuration, Single IP, and information.
2. Evoke the Auto-refresh or click to refresh the Single IP status manually.

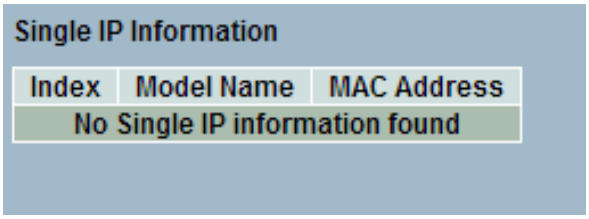


Figure 3-18.2: The Loop Protection Status

Parameter Description

Index: The ID of the active slave switch.

Model Name: Displays the model name of the slave switch.

MAC Address: Displays the Ethernet MAC address of the slave switch.

Buttons

- **Auto-refresh**: Check this box to enable an automatic refresh of the page at regular intervals.
- **Refresh**: Updates the single IP information.

Easy Port

Easy Port provides a convenient way to save and share common configurations. You can use it to enable features and settings, based on the location of a switch in the network and for mass configuration deployments across the network. You could easy to implement on voice ip phone, wireless access point, ip camera and so on. You can also leverage configuration to run a converged voice, video, and data network considering quality of service (QoS), bandwidth, latency, and high performance.

Web Interface

To configure the Easy Port in the web interface:

1. Click Configuration, then Easy Port.
2. Set the parameters.
3. Scroll the role for what kind device you want to set on the easy port and connect to.
4. Click “Apply” to save the setting.
5. If you want to cancel the setting, then you need to click the “Reset” button. It will revert to previously saved values.

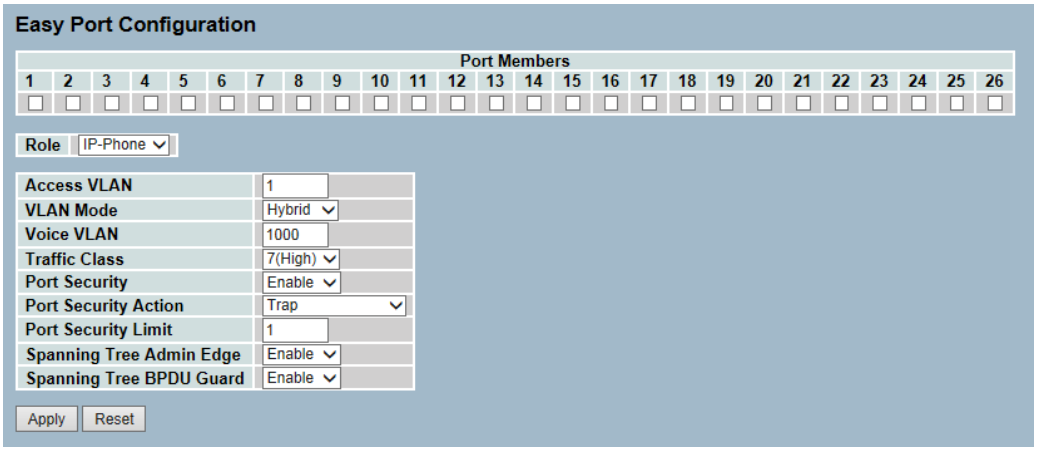


Figure 3-19.1: The Easy Port Configuration

Parameter Description

Port Members: A row of check boxes for each port is displayed for each VLAN ID. To include a port in an Easy Port, check the box as ☑.
To remove or exclude the port from the VLAN, make sure the box is unchecked as shown ☐. By default, no ports are members.

Role: Selects what kind device you want to connect and implement with the easy port setting.

Access VLAN: To set the Access VLAN ID, it means the switch port access VLAN ID (AVID).

VLAN Mode: Scroll down for selecting VLAN mode with access, trunk, or hybrid.

Voice VLAN: If you connect the IP phone, you need to assign the voice VLAN ID. The value of the port number has to be typed into the text box.

Traffic Class: Selects the traffic class for the data stream priority. The available value from 0 (Low) to 7 (High). If you want the voice has high priority, then you can set the value with 7.

Port Security: Scrolls to enable or disable the port security function on the port. If you turn on the function, then you need to set port security limit to allow how many device can access the port (via MAC address).

Port Security Action: Limit control limits the number of users on a given port. A user is identified by a MAC address and VLAN ID. If limit control is enabled on a port, the limit specifies the maximum number of users on the port. If this number is exceeded, an action is taken. The action can be one of the four different actions as described below.

- **None**: Do not allow more than the limit MAC addresses on the port, but take no further action.
- **Trap**: If Limit + 1 MAC addresses are seen on the port, send an SNMP trap. If aging is disabled, only one SNMP trap will be sent, but with aging enabled, new SNMP traps will be sent every time the limit gets exceeded.
  Shutdown: If limit + 1 MAC addresses is seen on the port, it shuts down the port. This implies that all secured MAC addresses will be removed from the port, and no new address will be learned. Even if the link is physically disconnected and reconnected on the port (by disconnecting the cable), the port will remain shut down. There are three ways to re-open the port:
  - Boot the stack or elect a new master the switch.
  - Disable and re-enable Limit Control on the port or the stack switch.
  - Click the “Reopen” button.
- **Trap & Shutdown**: If Limit + 1 MAC addresses is seen on the port, both the "Trap" and the "Shutdown" actions described above will be taken.

Port Security Limit: The maximum number of MAC addresses that can be secured. This number cannot exceed 1024. If the limit is exceeded, the corresponding action is taken. The switch is "born" with a total number of MAC addresses from which all ports draw whenever a new MAC address is seen on a port security-enabled port. Since all ports draw from the same pool, it may happen that a configured maximum cannot be granted, if the remaining ports have already used all available MAC addresses.

Spanning Tree Admin Edge: Controls whether the operEdge flag should start as set or cleared. (The initial operEdge state when a port is initialized).

Spanning Tree BPDU Guard: If enabled, it causes the port to disable itself upon receiving valid BPDU's. Contrary to the similar bridge setting, the port Edge status does not affect this setting.

A port entering error-disabled state due to this setting is subject to the bridge Port Error Recovery setting as well.

Buttons:

- **Apply –** Click to save changes.
- **Reset-** Click to undo any changes made locally and revert to previously saved values.

Chapter 4: Security

Access Management

This section configures the access management table of the switch including HTTP/HTTPS, SNMP, and TELNET/SSH. You can manage the switch over an Ethernet LAN, or over the Internet.

Configuration

This section shows you how to configure access management table of the Switch. The maximum entry number is 16. If the application's type matched any one of the access management entries, it will allow access to the switch.

Web Interface

To configure an Access Management Configuration in the web interface:

1. Select “Enabled” in the Mode of Access Management Configuration.
2. Click “Add new entry”.
3. Specify the Start IP Address, End IP Address.
4. Check Access Management method (HTTP/HTTPS, SNMP, and TELNET/SSH) in the entry.
5. Click “Apply”.

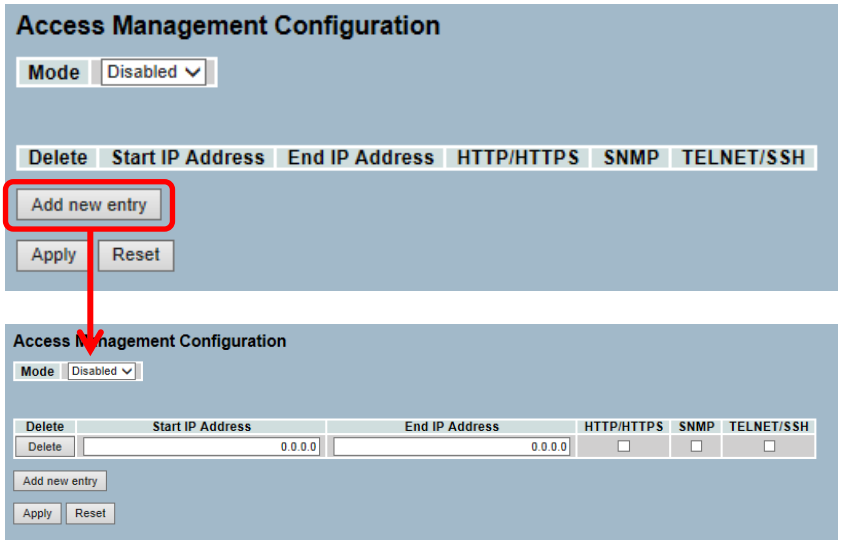


Figure 4-8.1: The Access Management Configuration

Parameter Description

Mode: Indicates the access management mode operation. Possible modes are:

- **Enabled:** Enables access management mode operation.
- **Disabled:** Disables access management mode operation.

Delete: Check to delete the entry. It will be deleted during the next save.

Start IP address: Indicates the start IP address for the access management entry.

End IP address: Indicates the end IP address for the access management entry.

HTTP/HTTPS: Indicates that the host can access the switch from HTTP/HTTPS interface if the host IP address matches the IP address range provided in the entry.

SNMP: Indicates that the host can access the switch from SNMP interface if the host IP address matches the IP address range provided in the entry.

TELNET/SSH: Indicates that the host can access the switch from TELNET/SSH interface if the host IP address matches the IP address range provided in the entry.

Buttons:

- **Apply** – Click to save changes.
- **Reset –** Click to undo any changes made locally and revert to previously saved values.

Statistics

This section shows a detailed statistics of the access management including HTTP, HTTPS, SSH, TELNET, and SSH.

Web Interface

To configure an Assess Management Statistics in the web interface:

1. Checked “Auto-refresh”.

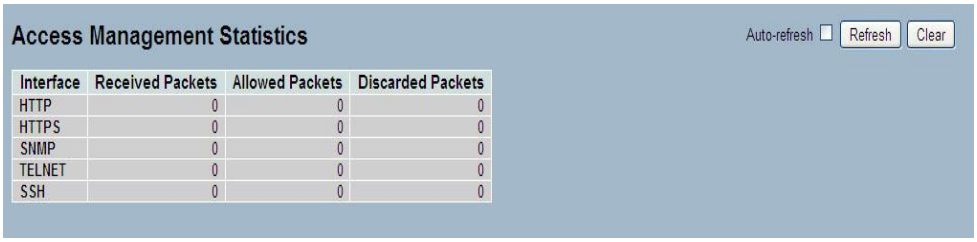


Figure 4-8.2: The Access Management Statistics

Parameter Description

Interface: The interface type through which the remote host can access the switch.

Received Packets: Number of received packets from the interface when access management mode is enabled.

Allowed Packets: Number of allowed packets from the interface when access management mode is enabled

Discarded Packets: Number of discarded packets from the interface when access management mode is enabled.

Auto-refresh: Evoke the auto-refresh icon, then the device will refresh the information automatically.

Upper right icon (Refresh, Clear): Click to refresh the access management statistics information manually. Click the clear button to clean up all entries.

SSH

This section shows the user how to use SSH (Secure Shell) to securely access the switch. SSH is a secure communication protocol that combines authentication and data encryption to provide secure encrypted communication.

Web Interface

To configure a SSH Configuration in the web interface:

1. Select “Enabled” in the Mode of SSH Configuration.
2. Click “Apply”.

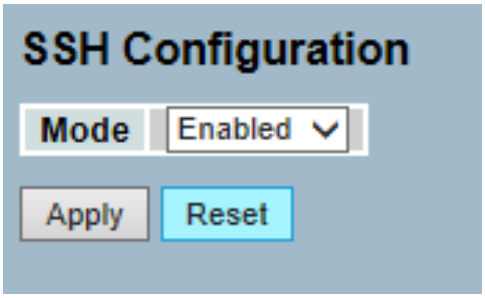


Figure 4-9.1: The SSH Configuration

Paramter Description

Mode: Indicates the SSH mode operation. Possible modes are:

- **Enabled:** Enables SSH mode operation.
- **Disabled:** Disables SSH mode operation.

Buttons:

- **Apply –** Click to save changes.
- **Reset –** Click to undo any changes made locally and revert to previously saved values.

HTTPs

This section shows you how to use HTTPS to securely access the switch. HTTPS is a secure communication protocol that combines authentication and data encryption to provide secure encrypted communication via the browser.

Web Interface

To configure a HTTPS Configuration in the web interface:

1. Select “Enabled” in the Mode of HTTPS Configuration.
2. Select “Enabled” in the Automatic Redirect of HTTPS Configuration.
3. Click “Apply”.

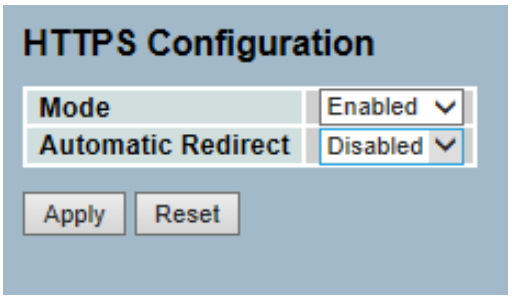


Figure 4-10.1: The HTTPS Configuration

Parameter Description

Mode: Indicates the HTTPS mode operation. Possible modes are:

- **Enabled:** Enables HTTPS mode operation.
- **Disabled:** Disables HTTPS mode operation.

Automatic Redirect: Indicates the HTTPS redirect mode operation. Automatically redirect web browser to HTTPS when HTTPS mode is enabled. Possible modes are:

- **Enabled:** Enables HTTPS redirect mode operation.
- **Disabled:** Disables HTTPS redirect mode operation.

Auth Method

This page shows how to configure an authenticated user when he logs into the switch via one of the management client interfaces.

Web Interface

To configure Authentication Method Configuration in the web interface:

1. Specify the Client (console, telent, ssh, web) which you want to monitor.
2. Specify the Authentication Method (none, local, radius, tacacs+).
3. Check “Fallback”.
4. Click “Apply”.

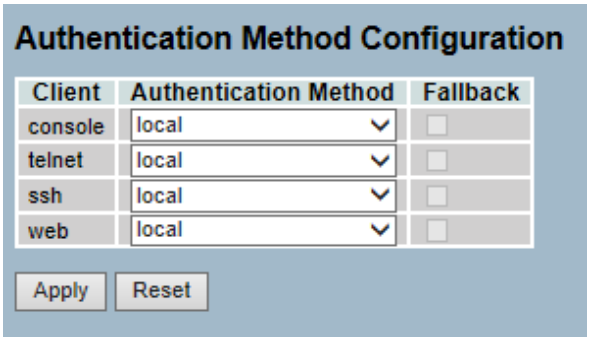


Figure 4-11.1: The HTTPS Configuration

Parameter Description

Client: The management client for which the configuration below applies.

Authentication Method: Authentication Method can be set to one of the following values:

- **None**: Authentication is disabled and login is not possible.
- **Local**: Uses the local user database on the switch for authentication.
- **Radius**: Uses a remote RADIUS server for authentication.
- **Tacacs+**: Uses a remote TACACS+ server for authentication.

Fallback: Enable fallback to local authentication by checking this box. If none of the configured authentication servers are alive, the local user database is used for authentication. This is only possible if the authentication method is set to a value other than 'None' or 'Local'.

Buttons:

- **Apply –** Click to save changes.
- **Reset –** Click to undo any changes made locally and revert to previously saved values.

Save Start

This section describes how to save the switch start configuration. Any current configuration files will be saved as XML format.

Web Interface

To configure a Save Start Configuration in the web interface:

1. Click “Save Start”.
2. Click “Yes”.

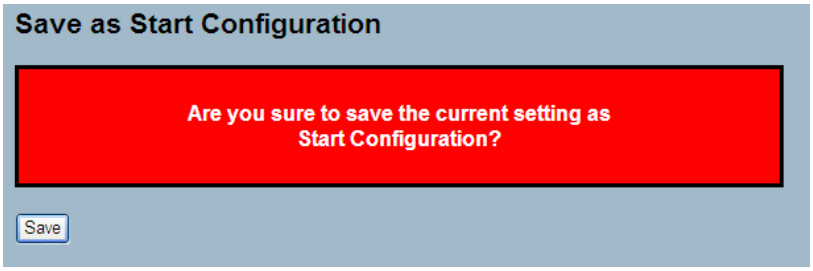


Figure 5-3.2: The Save Start Configuration

Parameter Description

Buttons: Save – Click the “Save” button to save current setting as start configuration.

Save User

This section describes how to save users information. Any current configuration files will be saved as XML format.

Web Interface

To configure a Save User Configuration in the web interface:

1. Click “Save User”.
2. Click “Yes”.

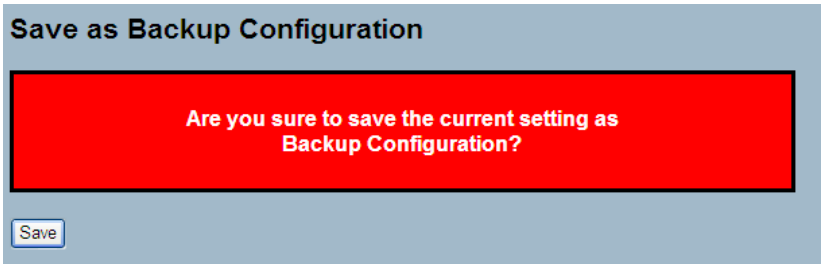


Figure 5-3.3: The Save as Backup Configuration

Parameter Description

Buttons: Save – Click the “Save” button to save current setting as backup configuration.

Restore User

This section describes how to restore user's information back to the switch. Any current configuration files will be restored via XML format.

Web Interface

To configure a Restore User Configuration in the web interface:

1. Click "Restore User".
2. Click "Yes".

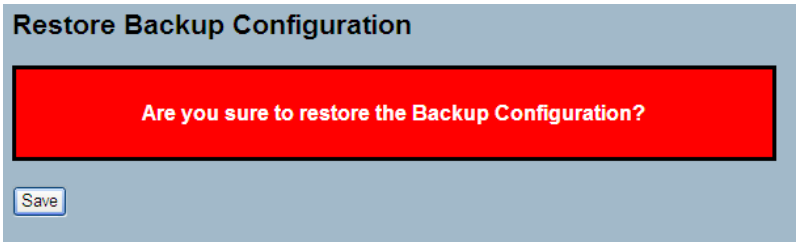


Figure 5-3.4: The Restore the Backup Configuration

Parameter Description

Buttons: Save – Click the "Save" button to restore the backup configuration to the switch.

Export/Import

This section describes how to export and import the switch configuration. Any current configuration files will be exported as XML format.

Export Config

This section describes to export the switch configuration for maintenance needs. Any current configuration files will be exported as XML format.

Web Interface

To configure an "Export Config" Configuration in the web interface:

1. Click "Save Configuration".
2. Save the file in your device.

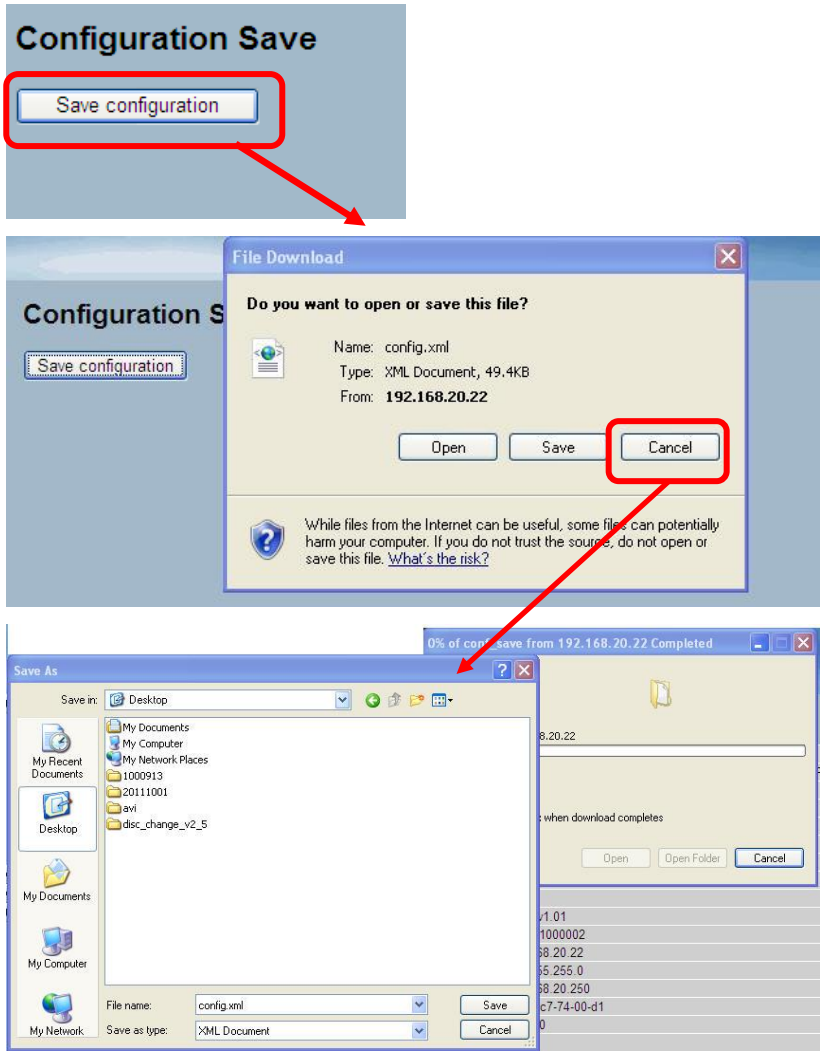


Figure 5-4.1: The Restore the Backup Configuration

Parameter Description

Save – Click the "Save" button to store the configuration to the PC or server.

Import Config

This section describes to export the switch configuration for maintenance needs. Any current configuration files will be exported as XML format.

Web Interface

To configure an Import Config Configuration in the web interface:

1. Click “Browse” to select the config file in you device.
2. Click “Upload”.

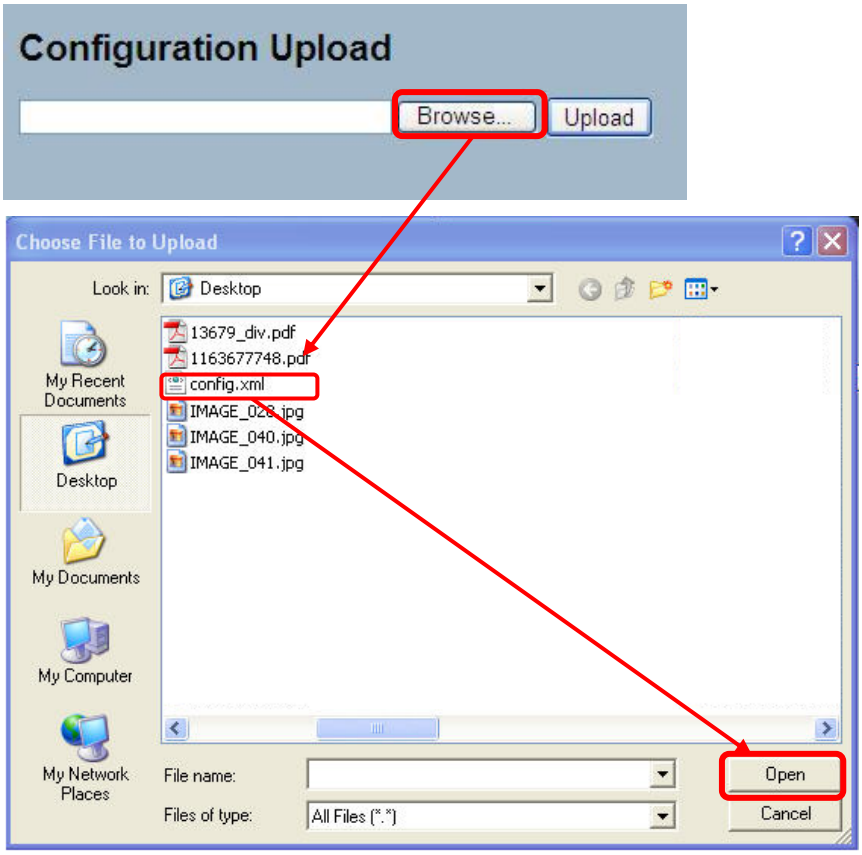


Figure 5-4.2: The Import Config

Parameter Description

Browse: Click the “Browse...” button to search the configuration URL and filename.

Upload: Click the “Upload” button, then the switch will start to upload the configuration from configuration stored location PC or server.

Diagnostics

This section provides a set of basic system diagnosis. It lets users know whether the system is health or if it needs to be fixed. The basic system check includes ICMP ping, ICMPv6, and VeriPHY cable diagnostics.

PING

This section allows you to issue ICMP PING packets to troubleshoot IPv6 connectivity issues.

Web Interface

To configure an ICMP PING Configuration in the web interface:

1. Specify ICMP PING IP address.
2. Specify ICMP PING size.
3. Click “Start”.

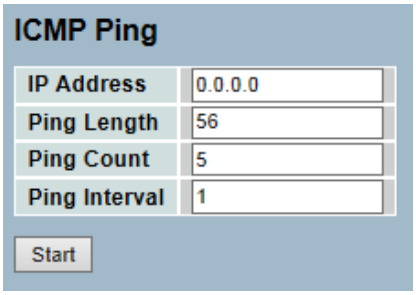


Figure 5-5.1: The ICMP Ping

Parameter Description

IP Address: To set the IP address of device that you want to ping.

Ping Length: The payload size of the ICMP packet. The values range from 2 bytes to 1452 bytes.

Ping Count: The count of the ICMP packet. The values range from 1time to 60 times.

Ping Interval: The interval of the ICMPv6 packet. The values range from 0 second to 30 seconds.

Start: Click the “Start” button, then the switch will start to ping the device using ICMP packet size what set on the switch.

After you press, 5 ICMP packets are transmitted and the sequence number and roundtrip time are displayed upon reception of a reply. The page refreshes automatically until responses to all packets are received, or until a timeout occurs.

PING6 server ::10.10.132.20

64 bytes from ::10.10.132.20: icmp_seq=0, time=0ms

64 bytes from ::10.10.132.20: icmp_seq=1, time=0ms

64 bytes from ::10.10.132.20: icmp_seq=2, time=0ms

64 bytes from ::10.10.132.20: icmp_seq=3, time=0ms

64 bytes from ::10.10.132.20: icmp_seq=4, time=0ms

Sent 5 packets, received 5 OK, 0 bad

PING6

This section allows you to issue ICMPv6 PING packets to troubleshoot IPv6 connectivity issues.

Web Interface

To configure an ICMPv6 PING Configuration in the web interface:

1. Specify ICMPv6 PING IP Address.
2. Specify ICMPv6 PING Size.
3. Click “Start”.

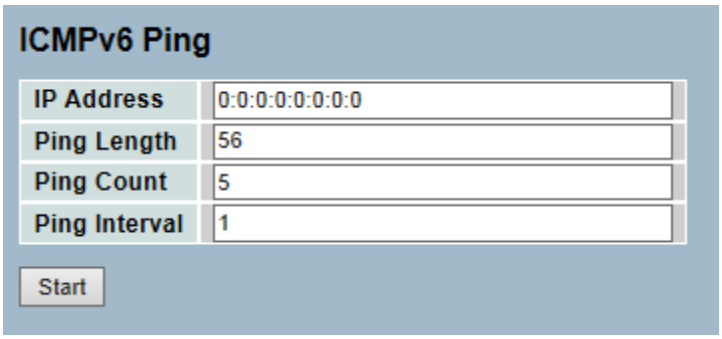


Figure 5-5.2: The ICMPv6 Ping

Parameter Description

IP Address: The destination IP Address with IPv6.

Ping Length: The payload size of the ICMP packet. The values range from 2 bytes to 1452 bytes.

Ping Count: The count of the ICMP packet. The values range from 1time to 60 times.

Ping Interval: The interval of the ICMPv6 packet. The values range from 0second to 30 seconds.

Start: Click the “Start” button then the switch will start to ping the device using ICMPv6 packet size what set on the switch.

After you press, 5 ICMPv6 packets are transmitted, and the sequence number and roundtrip time are displayed upon reception of a reply. The page refreshes automatically until responses to all packets are received, or until a timeout occurs. You can configure the following properties of the issued ICMP packets:

PING server 10.10.132.20

64 bytes from 10.10.132.20: icmp_seq=0, time=0ms

64 bytes from 10.10.132.20: icmp_seq=1, time=0ms

64 bytes from 10.10.132.20: icmp_seq=2, time=0ms

64 bytes from 10.10.132.20: icmp_seq=3, time=0ms

64 bytes from 10.10.132.20: icmp_seq=4, time=0ms

Sent 5 packets, received 5 OK, 0 bad

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